HIV AND AIDS IN SASKATCHEWAN 2010

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Saskatchewan Ministry of Health
Population Health Branch

Summary:

This annual report provides an epidemiological review of HIV and AIDS surveillance data in Saskatchewan to the end of December 31st, 2010.

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Purpose

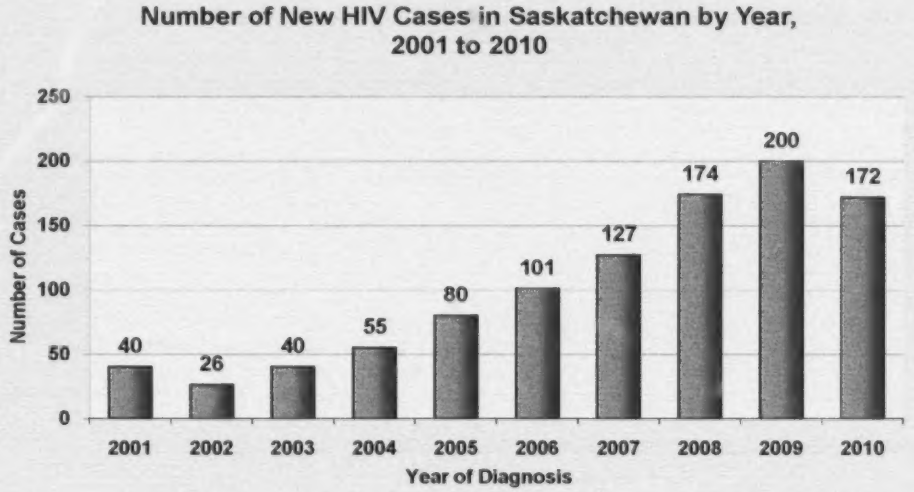
This report examines HIV and AIDS surveillance data reported in Saskatchewan to provide an up-to-date profile of individuals diagnosed with HIV and AIDS in the province.

The annual report focuses on those cases reported in 2010 within the context of trends and developments in the epidemiology of HIV and AIDS in Saskatchewan from 2001-2010.

HIV Morbidity

In Saskatchewan, a total of 1,371 lab confirmed HIV cases have been reported since HIV monitoring began in 1985. Overall, in the last ten year period, there has been a steady increase in the annual number of HIV diagnoses from 26 cases in 2002 to a peak of 200 cases in 2009 (Fig. 1). In 2010, 172 HIV cases were reported, a 14% decrease compared to 2009.

Figure 1

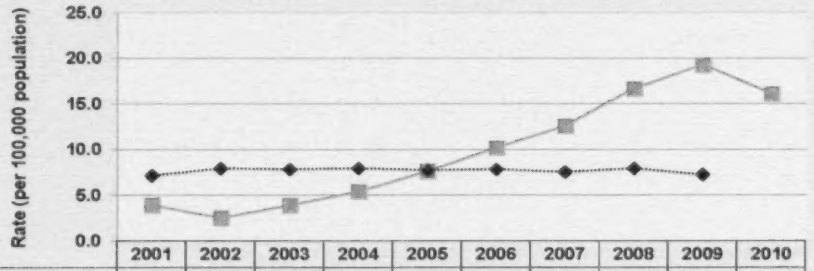


From 2002 a steady upward trend has occurred in the rates of HIV cases reported in the province. The highest rates of new positive HIV cases from 2001-2010 have occurred in the past three years ranging from 16.7 in 2008, 19.3 in 2009 and 16.1 in 2010 (per 100,000 population) (Fig. 2). The crude rate of new positive HIV cases in Saskatchewan decreased slightly in 2010 compared to 2009; from 19.3 to 16.1 cases per 100,000 population.

While the national HIV rate has remained fairly stable over the last seven years, in 2006 Saskatchewan HIV rates surpassed the national rate for positive HIV case reports in Canada and have remained consistently higher than the national rate.

Figure 2

Crude Rate of HIV Cases by Year in Saskatchewan, 2001-2010



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SK Rate	3.9	2.5	3.9	5.4	7.6	10.2	12.6	16.7	19.3	16.1
Canadian Rate	7.1	7.9	7.8	7.9	7.7	7.8	7.5	7.9	7.2	

* Canadian rates from Public Health Agency of Canada, 2010 (2010 Canadian rate not available)

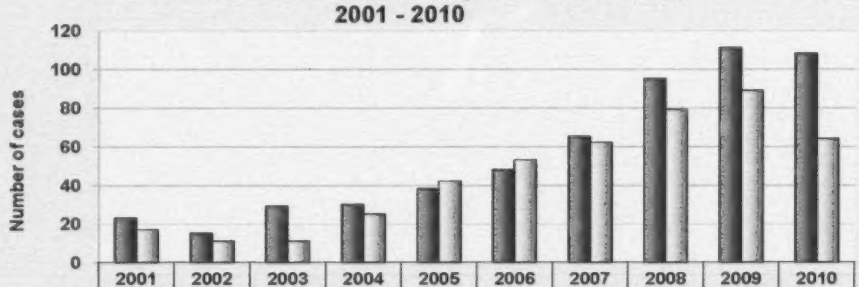
HIV Morbidity — gender and age profile

Overall, from 2001 to 2010 male cases have accounted for the majority of HIV positive cases in the province compared to females (55% vs. 45%). With the exception of 2005 and 2006, male cases have accounted for a higher proportion of positive HIV cases in the province each year over this ten year period. This difference has been highest in the past three years, with male cases comprising 55% of all cases reported in 2008 and 2009 (16 and 22 more males cases respectively) and 63% of cases (44 more cases) in 2010 (Fig. 3).

In 2010, 64 female cases and 108 male cases were reported with males accounting for 63% of cases compared to 37% among females.

Figure 3

HIV Cases in Saskatchewan by Year and Gender, 2001 - 2010



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Male Case	23	15	29	30	38	48	65	95	111	108
Female Case	17	11	11	25	42	53	62	79	89	64

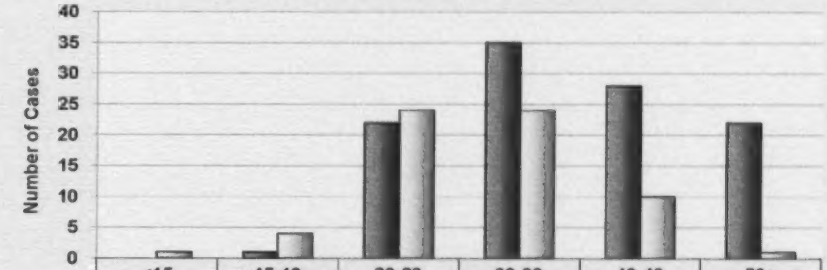
The average age of adult female cases (≥ 15 years) in 2010 was 31.3 years (range: 18-51 years) compared to that of adult males (≥ 15 years) at 38.8 years (range: 19-73 years). In 2010, the largest proportions of new HIV cases were found in the 20-29 and 30-39 year age groups. Together these age groups comprised 61% (105 cases) of cases this year (27% and 34% respectively) (Fig. 4).

Female cases continued to exceed the number of male cases in the 15-19 year age category making up the majority of cases in this age group (4 of 5 cases). Males and females comprise an equal proportion of cases in the 20-29 year age category (48% vs. 52%). Notably, in previous years, the proportion of females in this age group accounted for a larger proportion of cases; 61% in 2009, 66% in 2008, 65% in 2007 and 70% in 2006.

Males accounted for 59% (35 of 59 cases) of all cases in the 30-39 year age group, 74% (28 of 38 cases) of cases in the 40-49 year age group and 96% (22 of 23 cases) of cases over 50 years of age.

Figure 4

Number of HIV Cases in Saskatchewan by Gender and Age Group, 2010



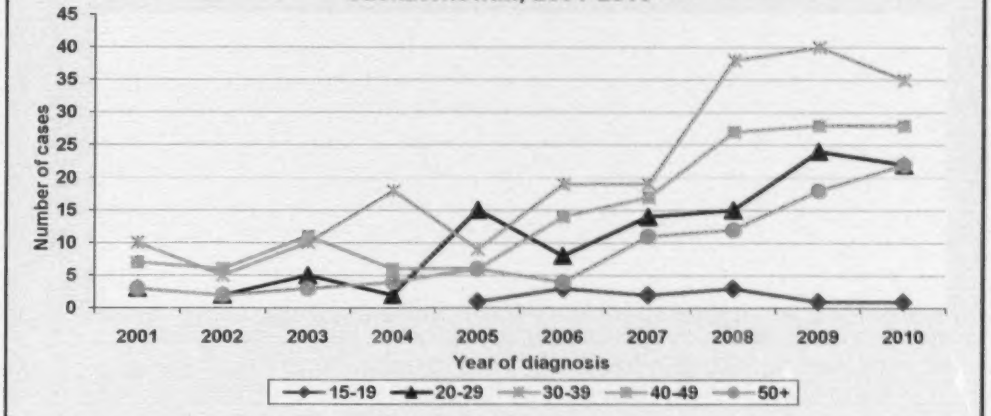
	<15	15-19	20-29	30-39	40-49	50+
Male		1	22	35	28	22
Female	1	4	24	24	10	1

Age Group

Over the last 10 year period (2001-2010), the age distribution of male cases has shown a steady upward trend in the older age categories. Reported cases among males aged 30-39 yrs and 40-49 yrs have increased since 2005 with a slight decrease observed in the 30-39 year age group from 2009 to 2010 (Fig 5). An increase in male cases in the 50 years and older age category has also been observed since 2006.

Figure 5

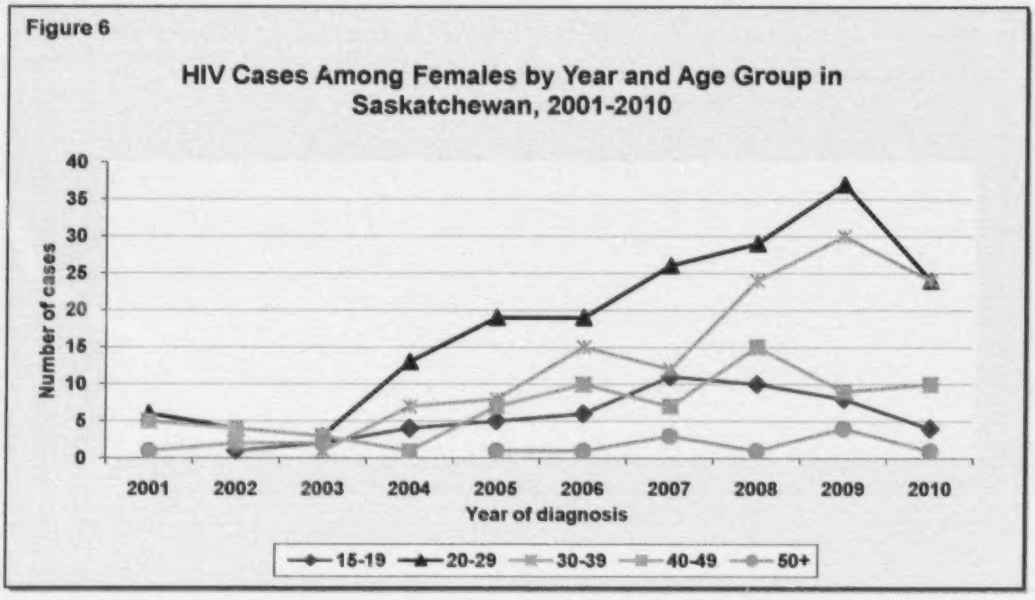
HIV Cases Among Males by Year and Age Group in Saskatchewan, 2001-2010



A rise in the number of HIV cases in the younger female age groups has occurred since 2003. The number of positive HIV diagnoses for women in the 20-29 and 30-39 year age groups rose over a six year period from 2003 to 2009 with a slight decrease observed in both age groups from 2009 to 2010.

An increasing trend in the number of female cases within the 15-19 year age category also occurred during this time; however a decline of this trend has occurred since 2007 (Fig. 6).

Figure 6

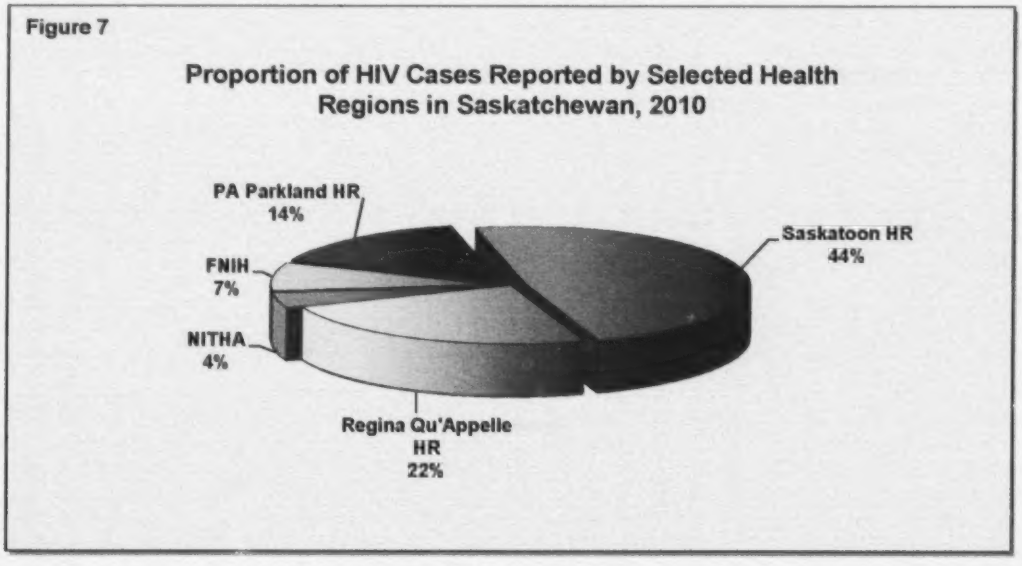


HIV Morbidity — geographic distribution

The highest proportion of HIV cases in 2010 continues to be found in the health regions (HR) containing the province's three largest urban centres; Saskatoon 44%, Regina 22% and Prince Albert 14% (Fig. 7). This geographic distribution of HIV cases has consistently been reflected in provincial trends since 2004 when the number of HIV cases began to rise in the province.

From 2004 to 2010, 45% of the cases within the province have occurred in the Saskatoon Health Region, compared to 26% in Regina Qu'Appelle Heath Region and 12% in Prince Albert Parkland Health Region.

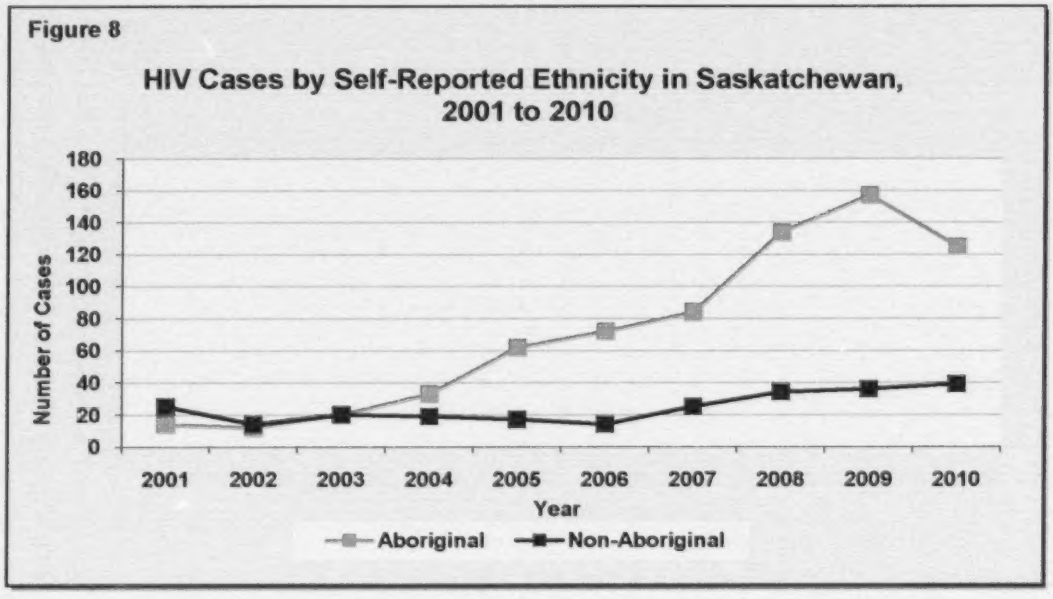
Figure 7



HIV Morbidity — ethnicity profile

Aboriginal persons continue to be disproportionately represented among the number of newly diagnosed HIV cases in the province. In 2010, 73% (125 cases) of all newly diagnosed HIV cases self-reported Aboriginal ethnicity compared to 23% (39 cases) reporting non-Aboriginal ethnicity (Fig. 8). This is consistent with previous years where Aboriginal ethnicity comprised 79% of cases in 2009, 77% in 2008 and 66% in 2007. Ethnicity was unspecified in 5% (8 cases) of cases reported in 2010.

Figure 8



Female cases reporting Aboriginal ethnicity comprised 86% (55 of 64 cases) of all female cases for 2010, while males self-reporting Aboriginal ethnicity made up 65% (70 of 108 cases) of all male cases this year.

The gender difference of younger female cases being higher than male cases is also reflected among the cases indentifying Aboriginal ethnicity. In 2010, the average age of Aboriginal female cases was 31.2 years, with 45% of all Aboriginal female cases being under 30 years of age. The average age of Aboriginal male cases was higher at 36.2 years with 24% of all Aboriginal male cases under the age of 30 years.

HIV Morbidity — self-reported risk exposure

Risk exposure information is self-reported in Saskatchewan. Table 1 displays the number of HIV cases by self-reported risk exposure per year from 2001-2010.

Risk exposure information was unknown in 5% (53 cases) of cases over this 10-year period.

Table 1 – Number of HIV cases by year and major self-reported risk exposures, Saskatchewan, 2001– 2010

Year	IDU	Het-Exposure	MSM	MSM/IDU	Endemic	Perinatal	NIR	Total Risks
2001	10	8	10	2	7	0	3	40
2002	14	7	1	0	3	0	1	26
2003	11	12	12	3	2	0	0	40
2004	27	11	2	3	8	0	4	55
2005	58	6	4	1	1	3	6	80
2006	70	18	5	0	1	0	7	101
2007	84	16	7	3	1	4	12	127
2008	132	21	7	3	2	0	5	174
2009	151	29	5	6	0	1	8	200
2010	123	25	10	5	1	1	7	172
Total	**680**	**153**	**63**	**26**	**26**	**9**	**53**	**1015**

* This table shows the primary self-reported risk factor identified for each HIV positive individual. Although cases may identify more than one risk factor, cases are assigned to a single exposure category based on a nationally recognized hierarchy of risk exposure.

MSM – Men having sex with men

IDU – Injection Drug Use

Het-Exposure – Heterosexual Exposure includes both het-risk and het-NIR (see technical notes for details)

Endemic –Origin from an HIV endemic country

Perinatal – Born to an HIV positive mother

NIR – No identified risk, unknown risk and less likely sources of infection

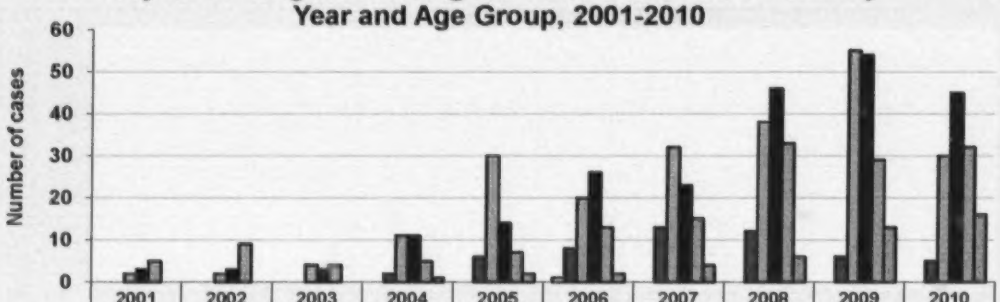
Intravenous drug use continues to define the overall risk profile of HIV in Saskatchewan. In 2001, intravenous drug use comprised 30% (12 cases) of risks among those diagnosed with HIV. Over the past 10-year period this proportion has increased to a high of 79% (157 cases) in 2009.

In 2010, 74% (128 of 172) of cases self-reported injection drug use; 80 males and 48 females. This is a slight decrease in the proportion of HIV cases indicating IDU as a risk factor compared to 2009 (79% to 74%).

Of the 128 cases self-reporting IDU in 2010, 81% (104 cases) self-identified as Aboriginal compared to 16% (20 cases) reporting non-Aboriginal ethnicity. No ethnicity was stated by four cases identifying IDU as a risk exposure.

The highest proportion of HIV infected individuals indicating IDU in 2010 was in the 30-39 year age category, while cases in the 20-29 year age group decreased compared to previous years (Fig. 9). Females self-reporting IDU in 2010 accounted for 4 of 5 cases in the 15-19 year age group, whereas males accounted for 71% (23 of 32 cases) of cases in the 40-49 year age category and 94% (15 of 16 cases) of cases 50 years of age and older.

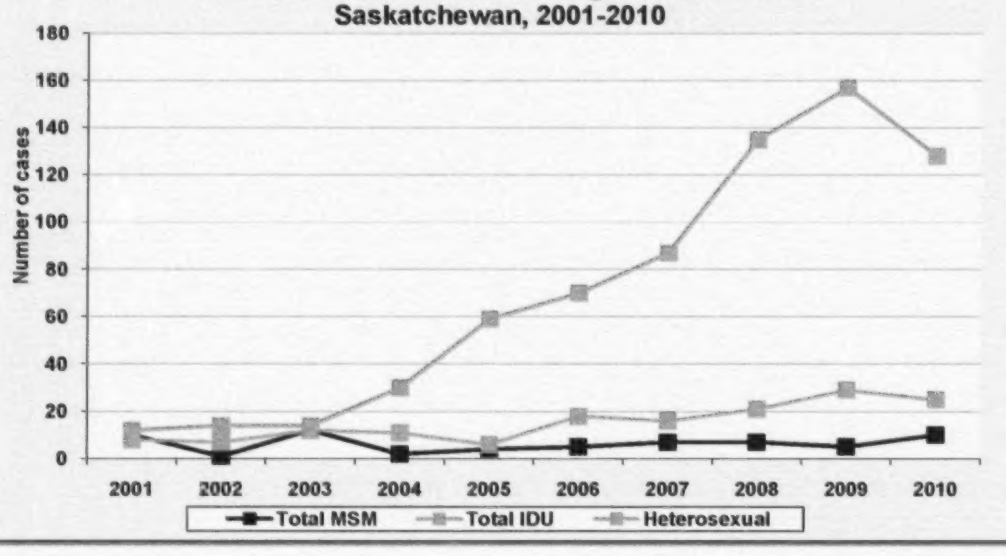
Figure 9



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
< 15						1				
15-19				2	6	8	13	12	6	5
20-29	2	2	4	11	30	20	32	38	55	30
30-39	3	3	3	11	14	26	23	46	54	45
40-49	5	9	4	5	7	13	15	33	29	32
50+				1	2	2	4	6	13	16

Cases reporting exposure through heterosexual activity remains the second most commonly reported risk category among positive HIV cases in the province. The proportion of cases reporting heterosexual exposure in the province has remained generally stable over the last 5 years from 2006-2010, averaging 14% of cases (Fig 10). Since 2004, the highest proportion of heterosexually exposed cases has consistently been identified in the 30-39 year age group for males (37%), while a greater proportion of female cases have been identified in the 20-29 and 30-39 year age groups, consisting of 34% in each age category.

Figure 10



In Saskatchewan, men engaging in sex with other men (MSM) has not been identified as a major risk reported among HIV positive individuals. In 2010, this risk exposure was reported in 6% (10 cases) of HIV positive diagnoses.

Endemic risk exposure includes those who were born in a country where HIV is endemic. From 2001-2010, 3% (26 cases) of HIV positive individuals have reported endemic risk exposure. One endemic case was reported in 2010.

From 2001-2010, nine cases of perinatal transmission occurred; three cases in 2005, four cases in 2007 and one case in both 2009 and 2010. In the 16 years prior to 2001, eight infants were perinatally infected with HIV at birth. Five of these eight cases were born to women from HIV endemic countries and either did not report or were unaware of their HIV status. None of the perinatal cases since 2001 were born to women from HIV endemic countries.

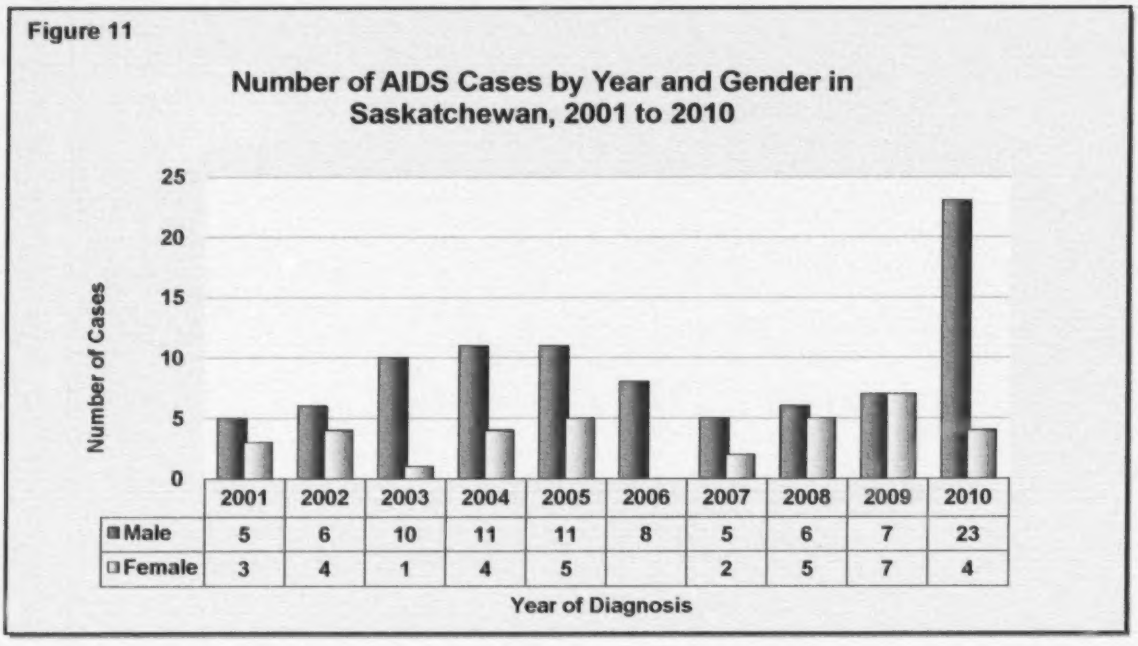
No identified risk information was reported in 2.3% (four cases) of individuals testing positive for HIV in 2010.

AIDS morbidity

Two hundred and ninety eight AIDS cases, comprising 238 males and 60 females, have been reported in Saskatchewan since AIDS became a provincially notifiable disease in 1984.

In 2010, there were 27 newly diagnosed cases of AIDS in the province; 23 males and four females. The number of male cases reported in 2010 represents greater than a three-fold increase over the seven male cases reported in 2009 (Fig.11). Forty-eight percent (11 cases) of these male AIDS cases were indentified in the 40-49 year age group.

Figure 11



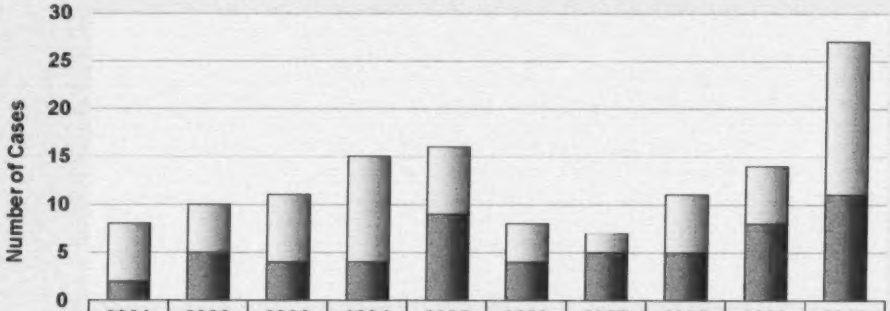
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Male	5	6	10	11	11	8	5	6	7	23
Female	3	4	1	4	5		2	5	7	4

In 2010, 11 deaths occurred among the 27 reported AIDS cases. All of these deaths were among males (Fig 12).

This trend is consistent with previous years where 75% of all AIDS deaths have occurred among males since 2004.

Figure 12

AIDS Cases in Saskatchewan, Life Status by Year of Diagnosis, 2001-2010



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Alive	6	5	7	11	7	4	2	6	6	16
Dead	2	5	4	4	9	4	5	5	8	11

Technical notes

Notification of HIV and AIDS cases to the local Medical Health Officer and the Saskatchewan Ministry of Health is mandated by the Disease Control Regulations under the Public Health Act, 1994.

Reporting delays are expected in the reporting of HIV and AIDS data, specifically for ethnicity and risk exposure categories, as well as for AIDS cases and death information. As updated information becomes available, cases may be reassigned based on this information. As such, numbers may differ at the time of next year's report.

This report is based on the number of HIV cases diagnosed by laboratory confirmation while residing in the province of Saskatchewan. Cases that are known to be reported outside of Saskatchewan are not counted in this province's statistics.

Only first-time HIV diagnoses are included in this report. All repeat positive and follow-up tests are removed.

HIV cases have been assigned to the year in which they were first lab-confirmed since the date of infection cannot always be determined. The exception is infant cases born to infected mothers who are assigned by the infant's year of birth.

Surveillance data is reflective only of the number of cases who are tested and diagnosed with HIV. This data does not reflect those individuals who have not yet been identified. HIV is also reported based on the year of their first positive lab result, and therefore does not necessarily represent the number of new infections that year as individuals could test positive years after acquiring the infection.

Individuals tested by Citizenship and Immigration Canada as part of the immigration process are not included in this report.

Ethnicity is self-reported. For purposes of this report, Aboriginal persons comprise Inuit, Métis, and First Nations. The non-Aboriginal classification includes Caucasian, Black, Latin-American, Asian, South Asian and other.

Risk exposure information is self-reported, thus limiting the accuracy and completeness of the data. In this report HIV and AIDS cases are assigned to a single exposure category based on a nationally recognized hierarchy of risk. When more than one risk factor is provided, cases are classified as the exposure category that is highest in the hierarchy.

Heterosexual exposure category in this report includes both those who report heterosexual contact with someone who is either HIV-infected or who is at increased risk for HIV infection. This category also includes those individuals where heterosexual contact is the only exposure reported.

Cases reporting MSM/IDU have been counted as IDU risk exposures.

The annual incidence pattern of AIDS cases does not necessarily reflect the year in which the client was infected, but rather the year in which the individual was diagnosed with an AIDS defining illness.

All Saskatchewan HIV rates cited in this report are crude rates. Rates were calculated by dividing the total number of HIV cases by the Saskatchewan covered population, expressed as the number of cases or events per 100,000 population.

Prepared November, 2011.